

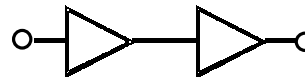
Low Noise Amplifier Die (8.0 – 11.0 GHz) ITT3501D

ADVANCED INFORMATION

FEATURES

- CW or Pulsed Operation
- 2.25 dB Typical Noise Figure
- 13 dB Typical Gain
- 12 dBm Typical Output Power at 1dB compression
- 50 Ω Input/Output Impedance
- Self-Aligned MSAG[®] MESFET Process

Two Stage Single-ended Low Noise Amplifier



DESCRIPTION

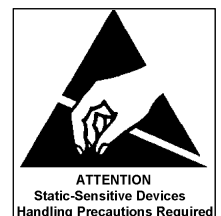
The ITT3501D is a two stage, single ended MMIC low noise amplifier fabricated using GaAsTEK's mature GaAs Self-Aligned MSAG[®] MESFET Process. This product is fully matched to 50 ohms on both the input and the output.

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

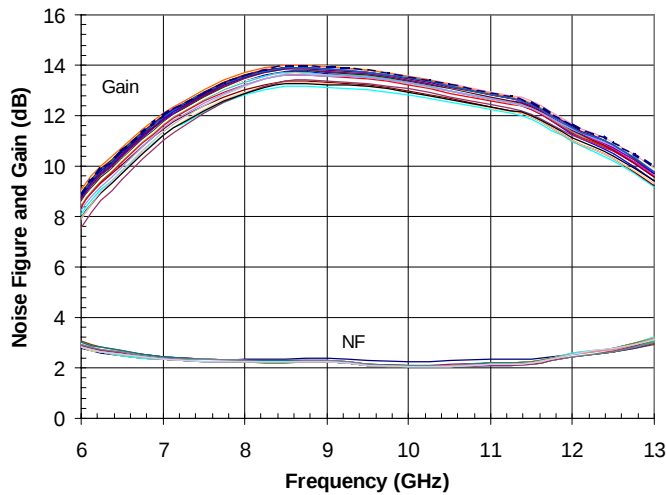
Rating	Symbol	Value	Unit
DC Drain Supply Voltage	V _{DD}	8	Vdc
DC Gate Supply Voltage	V _{GG}	-4	Vdc
RF Input Power	P _{IN}	200	mW
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-40 to +150	°C

ELECTRICAL CHARACTERISTICS V_{DD}=3.0 V, V_{GG}=-0.6 V, T_A=25 °C

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency	<i>f</i>	8.0	—	11.0	GHz
Noise Figure	NF		2.25		dB
Gain	G		13		dB
Gain Flatness Over Frequency	-		+/- 1		dB
Input VSWR	-		3:1		
Output VSWR	-		2:1		
Output Power at 1 dB Compression	P _{1dB}		12		dBm
Third-Order Intercept Point	TOI		22		dBm

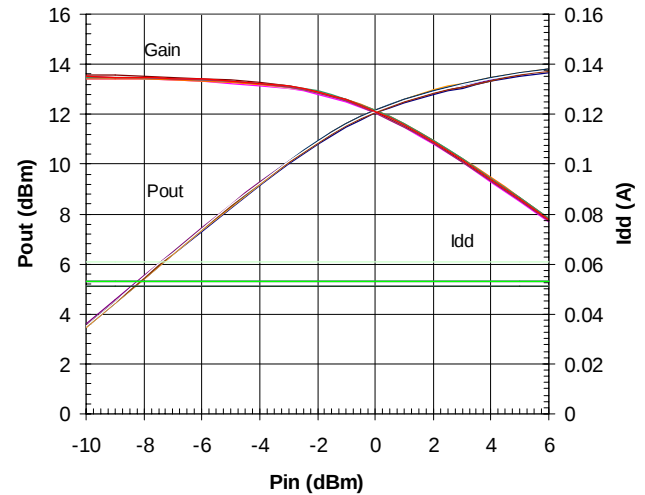


TYPICAL CHARACTERISTICS



**Figure 1. Noise Figure and Gain vs. frequency
(multiple devices)**

Conditions for Figure 1:
 $V_{DD} = 3V$, $V_{GG} = -0.6V$



**Figure 2. Output power, Gain and Drain Current vs.
Input Power (multiple devices)**

Conditions for Figure 2:
 $V_{DD} = 3V$, $V_{GG} = -0.6V$, $f = 10\text{ GHz}$